(c) **Classes.** The above named grades are further subdivided on the basis of use, size, and defects, into the following classes:

Joist and Plank: For stress grades 1700 F to 1100 F

Beams and Stringers: For stress grades 1700 F to 1450 F

(d) **Sizes.** Nominal sizes included in the two classes area are as follows:

Class	Nominal Thickness, inches (mm)	Nominal Width, inches (mm)
Joist and Plank	2 to 4 (50.8 to 101.6)	$4 ($101.6)
Beams and Stringers	$5($127)	$8 ($203.2)

(e) **Dressing.** Dressing shall be in accordance with Section 507 or as modified on the Plans.

(f) **Size Standards.** When surfaced S1E and S1S to S4S, timber shall not be smaller in any dimensions affected by surfacing than the nominal dimensions less 1/2 inch (12.7 mm) for dimensions of 7 inches (178 mm) or less and 3/4 inch (19.1 mm) for dimensions of 8 inches (203.2 mm) and greater.

Rough timber shall be sawn full to nominal dimensions except that the following occasional variation in sawing is permissible:

	Permissible Variations	
Nominal Size, inches (mm)	**Under, inches (mm)**	**Over, inches (mm)**
2 to 7 (50.8 to 177.8)	1/16 (1.6)	1/4 (6.4)
$8($203.2 mm)	1/8 (3.2)	1/2 (12.7)

No shipment shall contain more than 20 percent of pieces of minimum dimension due to such variation in sawing.

(g) **Grading Requirements.** Methods of grading and general requirements shall be in accordance with the Southern Pine Inspection Bureau (SPIB) for Southern Pine and the West Coast Lumber Inspection Bureau (WCLIB) for Douglas Fir, grading rules, latest editions.

(h) **Inspection.** If untreated, the timber shall be inspected at destination; if treated, it shall be inspected at the treating plant.

NOTE: No allowance shall be made for shrinkage or variation in manufacture other than outlined in these Specifications.

SECTION 728
TIMBER PILES

728.01. TIMBER PILES.

(a) **Materials Covered.** This Section covers requirements for round timber piles to be used untreated, or treated by standard preservatives, as specified; timber piles shall meet the requirements of AASHTO M168, except as modified by these Specifications.

The diameter of the pile shall be determined by means of a circumference-diameter tape, and in the case of piles to be treated, such measurements shall be taken at the treating plant immediately prior to treatment, or in the case of untreated piles, it shall be measured on the job.

Piles after peeling shall have the minimum dimensions of the tip and at a section 4 feet (1.2 m) from the butt as shown in the following tabulations:

Length of Pile feet (m)	Tip Diameter inches (mm)	Diameter, 4 feet (1.2 m) from Butt, inches (mm) Southern Yellow Pine Southern Cypress Douglas Fir	All Other Species
#21(6.3)	9(299)	11(279)	11(279)
21-40(6.4-12.4)	8(203)	12(305)	13(330)
41-60(12.5-18.3)	7(178)	13(330)	14(356)
>60(18.3)	6(152)	14(356)	14(356)

Diameter of the piles at the butt shall not exceed 18 inches (457 mm).

(b) **Storing and Handling.** The method of storing and handling shall be such as to avoid injury to the piles. Special care shall be taken to avoid breaking the surface of treated piles, and cant dogs, hooks or pike poles shall not be used.

Cuts or breaks in the surface of treated piling shall be given 3 brush coats of hot creosote oil of approved quality, and hot creosote oil shall be poured into all bolt holes.

SECTION 730
PAINT FOR STRUCTURAL STEEL

730.01. GENERAL REQUIREMENTS.

(a) **Scope.** This Section covers the various types of paint used to protect structural steel.

(b) **Certification.** For each shipment of paint, furnish a Type C certification in accordance with Subsection 106.04, for each lot of each paint. Only paint systems included on the Materials Engineer's list of approved products shall be used on Department projects.

For a paint system to be considered for inclusion on the list of approved products, the paint manufacturer shall submit a Type A certification showing satisfactory test results from an approved testing laboratory. The certification shall include the manufacturer's name, system performance test results and dates; it will also show the following for each paint: test results and dates, brand name, lot number, and date of manufacture. New certification shall be required if any of the following conditions occur: the manufacturing process or paint formulation is changed, testing indicates nonconformance to the Specifications, or the certification is older than 5 years.

A 1 gallon (4 liter) sample of each component in a paint system may be required by the Engineer for testing purposes. In case of variance, the Department's test results will govern. Failure to meet Specification requirements will be grounds for removal from the list of approved products.

The Department reserves the right to suspend approval of products if paint system performance is unsatisfactory (i.e., the paint has poor durability or appearance).

(c) **System Performance.** Paint shall be evaluated according to Performance Class. The performance of the coating system shall be measured using test panels. These test panels shall be coated with all required paint coats. Each coat shall be applied as specified.